

FIG. 1

```

-54  AGCTGCGGCCCGGTCTGCCAGCCAGACCCTTTGGAGAAGACCCCACTCCCTGTC
1  ATGGGCCCCCGCTGCACCCTGCACCCOCTTTCTCTCCTGGTGCAGGTGACAGCGCTGGCT 60
   M G P R C T L H P L S L L V Q V T A L A
61  GCGACTCTGGCCCAGGGCAGGCTGCCTGCCTTCCTGCCCTGTGAGCTCCAGCCCCACGGC 120
   A T L A Q G R L P A F L P C E L Q P H G
121 CTGGTGAAGTGCAGTGGCTCTTCCTGAAGTCCGTGCCCCACTTCTCGGCGGCAGCGCC 180
   L V N C N W L F L K S V P H F S A A A P
181 CGGGCCAACGTCAACAGCCTCTCCTTACTCTCCAACCGCATCCACCACTTGCACGACTCT 240
   R A N V T S L S L L S N R I H H L H D S
241 GACTTGGTCCACCTGTCCAGCCTACGAAGTCTCAACCTCAAGTGGAACTGCCCGCOGGCT 300
   D F V H L S S L R T L N L K W N C P P A
301 GGCCTCAGCCCATGCACTTCCCCTGCCACATGACCATCGAGCCCAACACCTTCCTGGCC 360
   G L S P M H F P C H M T I E P N T F L A
361 GTGCCCACCCTGGAGGAGCTGAACCTGAGCTACAACAGCATCAGACCGTGCTGOCCTG 420
   V P T L E E L N L S Y N S I T T V P A L
421 CCCGACTCCCTCGTGTCCCTGTGCTGAGCGGCACCAACATCCTGGTGCTAGACCCOACC 480
   P D S L V S L S L S R T N I L V L D P T
481 CACCTCACTGGCCTACATGCCCTGCGCTACCTGTACATGGATGGCAACTGCTACTACAAG 540
   H L T G L H A L R Y L Y M D G N C Y Y K
541 AACCCTGCCAGGGGGCGCTGGAGGTGGTGCCGGGTGCCCTCCTCGGCCTGGGCAACCTC 600
   N P C Q G A L E V V P G A L L G L G N L
601 ACACATCTCTCACTCAAGTACAACAATCTCACGGAGGTGCCCCGCAGCCTGCCCCCAGC 660
   T H L S L K Y N N L T E V P R S L P P S
661 CTGGAGACCCTGCTGTTGTCCTACAACCACATTGTCACCCTGACGCTGAGGACCTGGCC 720
   L E T L L L S Y N H I V T L T P E D L A
721 AATCTGACTGCCCTGCGCGTGCTTGATGTGGGGGGGAAGTCCCGCGCTGTGACCATGCC 780
   N L T A L R V L D V G G N C R R C D H A

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FIG. 2

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781 OGCAACCCCTGCAGGGAGTGCCCAAAGGACCACCCCAAGCTGCACTCTGACACCTTCAGC 840
   R N P C R E C P K D H P K L H S D T F S
841 CACCTGAGCCGCCTCGAAGGCCTGGTGTGAAAGACAGTTCTCTCTACAACTGGACGCC 900
   H L S R L E G L V L K D S S L Y N L D A
901 AGGTGGTTCCGAGGCCTGGACAGGCTCCAAGTGCTGGACCTGAGTGAGAACTTCCTCTAC 960
   R W F R G L D R L Q V L D L S E N F L Y
961 GACTGCATCACCAAGACCACGGCCTTCCAGGGCCTGGCCCGACTgCGcAAGCTCAACCTG 1020
   D C I T K T T A F Q G L A R L R K L N L
1021 TCCTTCAATTACCACAAGAAGGTGTCTTTGCCCACTGCACCTGGCACCCCTCCTTTGGG 1080
   S F N Y H K K V S F A H L H L A P S F G
1081 CACCTCCGGTCCCTGAAGGAGCTGGACATGCATGGCATCTTCTTCCGCTCGCTCAGTGAG 1140
   H L R S L K E L D M H G I F F R S L S E
1141 ACCACGCTCCAACCTCTGGTCCAACTGCCTATGCTCCAGACCCCTGGCCTGCAGATGAAC 1200
   T T L Q P L V Q L P M L Q T L R L Q M N
1201 TTCATTAACCAGGCCCAGCTCAGCATCTTTGGGGCCTTCCCTGGCCTGCTGTACGTGGAC 1260
   F I N Q A Q L S I F G A F P G L L Y V D
1261 CTATCGGACAACCGCATCAGCGGAGCTGCAAGGCCAGTGGcCATTACTAGGGAGGTGGAT 1320
   L S D N R I S G A A R P V A I T R E V D
1321 GGTAGGGAGAGGGTCTGGCTGCCTTCCAGGAACCTCGCTCCACGTCCACTGGACACTCTC 1380
   G R E R V W L P S R N L A P R P L D T L
1381 CGCTCAGAGGACTTCATGCCAACTGCAAGGCCTTCAGCTTCACCTTGGACCTGTCTCGG 1440
   R S E D F M P N C K A F S F T L D L S R
1441 AACAACTGGTGACAATCCAGTCGGAGATGTTTGCTCGCCTCTCAGCCTOGAGTGCCTG 1500
   N N L V T I Q S E M F A R L S R L E C L
1501 CGTCTGAGCCACAACAGCATCTCCAGGCGGTCAATGGCTCTCAGTTTGTGCCGCTGACC 1560
   R L S H N S I S Q A V N G S Q F V P L T

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FIG. 3

1561 AGCCTGCGGGTGCTGGACCTGTCCACAACAAGCTGGACCTGTATCACGGGCGCTCGTTC 1620
S L R V L D L S H N K L D L Y H G R S F
1621 ACGGAGCTGCCGCGCCTGGAAGCACTGGACCTCAGCTACAACAGCCAGCCCTTTACCATG 1680
T E L P R L E A L D L S Y N S Q P F T M
1681 CAGGGTGTGGGCCACAACCTCAGCTTCGTGGGCCAGCTGCCCGCCCTGCGCTACCTCAGC 1740
Q G V G H N L S F V A Q L P A L R Y L S
1741 CTGGCGCACAATGACATCCATAGCCGAGTGTCCAGCAGCTCTGTAGCGCCTCACTGTGC 1800
L A H N D I H S R V S Q Q L C S A S L C
1801 GCCCTGGACTTTAGCGGCAACGATCTGAGCCGGATGTGGGCTGAGGGAGACCTCTATCTC 1860
A L D F S G N D L S R M W A E G D L Y L
1861 CGCTTCTTCCAAGGCCTAAGAAGCCTAGTCTGGCTGGACCTGTCCAGAACCACTGCAC 1920
R F F Q G L R S L V W L D L S Q N H L H
1921 ACCCTCCTGCCACGTGCCCTGGACAACCTCCOCAAAGCCTGAAGCATCTGCATCTCCGT 1980
T L L P R A L D N L P K S L K H L H L R
1981 GACAATAACCTGGCCTTCTTCAACTGGAGCAGCCTGACCCTCCTGCCAAGCTGGAAACC 2040
D N N L A F F N W S S L T L L P K L E T
2041 CTGGACTTGGCTGGAAACCAGCTGAAGGCCCTAAGCAATGGCAGCCTGCCATCTGGCAOC 2100
L D L A G N Q L K A L S N G S L P S G T
2101 CAGCTGCGGAGGCTGGACCTCAGTGGCAACAGCATCGGCTTTGTGAACCTGGCTTCTTT 2160
Q L R R L D L S G N S I G F V N P G F F
2161 GCCCTGCCAAGCAGTTAGAAGAGCTCAACCTCAGCGCCAATGCCCTCAAGACAGTGGAG 2220
A L A K Q L E E L N L S A N A L K T V E
2221 CCTCCTGGTTTGGCTCGATGGTGGGCAACCTGAAAGTCCTAGACGTGAGCGCCAACCCT 2280
P S W F G S M V G N L K V L D V S A N P
2281 CTGCACTGCGCCTGTGGGGCGACCTTCGTGGGCTTCCTGCTGGAGGTACAGGCTGCGGTG 2340
L H C A C G A T F V G F L L E V Q A A V

FIG. 4

2341 CCTGGGCTGCCCAGCCGCGTCAAGTGTGGCAGTCCGGGGCAGCTCCAGGGCCATAGCATC 2400
 P G L P S R V K C G S P G Q L Q G H S I
 2401 TTTGCGCAAGACCTGCGCCTCTGCOCTGGATGAGACCCCTCTCGTGGAAGTGT TTTGGCATC 2460
 F A Q D L R L C L D E T L S W N C F G I
 2461 TCGCTGCTGGCCATGGCCCTGGGCOCTGGTTGTGOCATGCTGCACCACCTCTGCGGCTGG 2520
S L L A M A L G L V V P M L H H L C G W
 2521 GACCTCTGGTACTGCTTCCACCTGIGCOCTGGCOCTGGCTGCCCCACCGAGGGCAGCGGCGG 2580
 D L W Y C F H L C L A W L P H R G Q R R
 2581 GCGCAGACGCCCTGTTCTATGATGCOCTTCGTGGTCTTTGACAAAGCTCAGAGTGCTGTG 2640
 G A D A L F Y D A F V V F D K A Q S A V
 2641 GCGACTGGGTGTACAACGAGCTGCGGGTGCAGCTGGAGGAGCGCCGTGGGCGCCgCGCA 2700
 A D W V Y N E L R V Q L E E R R G R R A
 2701 CTGCGCCTGTGCOCTGGAGGAGCGAGACTGGTTACCTGGCAAGACGCTCTTCGAGAACTG 2760
 L R L C L E E R D W L P G K T L F E N L
 2761 TGGGCCTCAGTCTACAGCAGCCGCAAGACCCCTGTTTGTGCTGGCCACACGGACCGTGTC 2820
 W A S V Y S S R K T L F V L A H T D R V
 2821 AGCGCCCTCTTGCGTGCCAGTTTCTGCTGGCCAGCAGCGCOCTGCTGGAGGACCGCAAG 2880
 S G L L R A S F L L A Q Q R L L E D R K
 2881 GACGTTGTAGTGCTGGTGATCCTGCGCCCCGATGCCTACCGCTCCCGCTACGTGCGGCTG 2940
 D V V V L V I L R P D A Y R S R Y V R L
 2941 CGCCAgCGCCTCTGCCGCCAGAGTGTOCTCCTCTGGCCCCACCAGCCCGTGGGCAGGGC 3000
 R Q R L C R Q S V L L W P H Q P R G Q G
 3001 AGCTTCTGGGCCAGCTGGGCACAGCCCTGACCAGGGACAACCGCCACTTCTATAACCGG 3060
 S F W A Q L G T A L T R D N R H F Y N R
 3061 AACTTCTGCCGGGGCCCCACGACAGCCGAATAG 3093
 N F C R G P T T A E *

FIG. 5

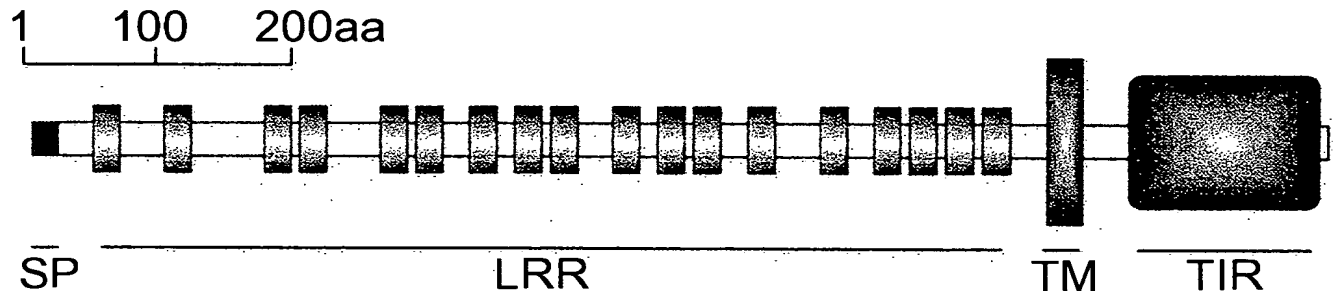


FIG. 6

SWINE	1	MCPRCT--LHPLSLLVQVTLAATLAQGRLPATLPCELOPHGLVNCNWFLKSVPHFSAA	58	SWINE
HUMAN	1	MCF-CRSALHPLSLLVQAIMLAMTLALGTLPATLPCELOPHGLVNCNWFLKSVPHFSMA	59	HUMAN
MOUSE	1	MVLRRT-LHPLSLLVQAAVLAETLALGTLPATLPCELPKPHGLVDCNWFLKSVPRFSAA	59	MOUSE
CAT	1	MCF-CHGALHPLSLLVQAAALAVALAQGTLPATLPCELOPHGLVNCNWFLKSVPHFSAA	59	CAT
* ***** . ** . ** * . ***** . . ***** . * . ***** . ** . *				
SWINE	59	APRANVTLSLLSNRIHHLHDSDFVHLSSLRTNLKWNCPAGLSPMHFPCHMTIEPNTF	118	SWINE
HUMAN	60	APRGVNTLSLSSNRIHHLHDSDFHLP SLRHNLKWNCPVGLSPMHFPCHMTIEPSTF	119	HUMAN
MOUSE	60	ASCSNITRLSLISNRIHHLHNSDFVHLNLRLQNLKWNCPPTGLSPLHFSCHMTIEPRTF	119	MOUSE
CAT	60	APRGVNTLSLYSNRIHHLHDSDFVHLSSLRRNLKWNCPASLSPMHFPCHMTIEPHTF	119	CAT
* . . * . * . *** ***** . *** . * . * . ***** . *** . * . ***** . **				
SWINE	119	IAVPTLEEINLSYNSITTVPALPDSLSLSLRTNIVLDPHTLGLHALRYLYMDGNCY	178	SWINE
HUMAN	120	IAVPTLEEINLSYNNIMTVPALPKSLISLSLSTNIIIMDSASLAGLHALRFLFMDGNCY	179	HUMAN
MOUSE	120	IAMPTELEEINLSYNGITTVPRLPSSLVNLSSLSTNIIIVLDANSIAGLYSLRVLFMDGNCY	179	MOUSE
CAT	120	IAVPTLEEINLSYNSITTVPALPSSLVLSLSLRTNIVLDPANLAGLSLRFILFDGNCY	179	CAT
** . . ***** * . *** . * . * . ***** . * . * . * . * . *****				
SWINE	179	YKNPCQGALEVP GALLGLGNLTHLSLKYNNTLTPRSLPPSLETLLLSYNHIVTLTPED	238	SWINE
HUMAN	180	YKNPCQGALEVP GALLGLGNLTHLSLKYNNTLTPRNLPPSLEYLLLSYNRIVKLAPED	239	HUMAN
MOUSE	180	YKNPCTGAVKVP GALLGLSNLTHLSLKYNNTLTPRQLPPSLEYLLVSYNLIVKLGPED	239	MOUSE
CAT	180	YKNPCQALQVAP GALLGLGNLTHLSLKYNNTLTPRGLPPSLEYLLLSYNHIITLAPED	239	CAT
***** * . * ***** . ***** ***** * . * . * . * . * . *****				
SWINE	239	LANLTALRVLDVGGNCRRCDHARNPCRECPKDHPLHSDTFSHLSRLEGLVLKDSSLYNL	298	
HUMAN	240	LANLTALRVLDVGGNCRRCDHAPNPMCECPRHFPQLHPDTFSHLSRLEGLVLKDSSLSWL	299	
MOUSE	240	LANLTSLRVLDVGGNCRRCDHAPNPCIECGQSLHLPETFHLSHLEGLVLKDSSLHTL	299	
CAT	240	LANLTALRVLDVGGNCRRCDHARNPMCECPKGFPHLPDTFSHLNHLEGLVLKDSSLYNL	299	
***** . ***** ***** * . * . * . * . * . ***** *				

FIG. 7

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SWINE 299 DARWFRGLDRLQVLDLSENFYDCITKTTAFQGLARLRKLNLSFNHYHKVSAFEHLHLAPS 358
HUMAN 300 NASWFRGLGNLRVLDLSENFYKCIKTKAFQGLTQLRKLNLSFNHYKRVSAFEHLSLAPS 359
MOUSE 300 NSSWFQGLVNLSVLDLSENFYESIHNHNAFQNLTRLRKLNLSFNHYRKVSAFEHLHLASS 359
CAT 300 NPRWFHALGNLMVLDLSENFYDCITKTTAFQGLAQLRRNLNSFNHYHKVSAFEHLHLAPS 359
      . ** . * . * ***** . . . * * * . * ** ***** * . * * * . * . * . *
SWINE 359 FGHLSRLKELDMHGIFFRSLSETTLQPLVOLPMLQTLRLQMFINQAQLSIFGAFFPGLLY 418
HUMAN 360 FGSLVALKELDMHGIFFRSLDETTLRPLARLPMLQTLRLQMFINQAQLGIFRAFFPGLRY 419
MOUSE 360 FKNLVSLQELNMHGIFFRSLNKYTLRWLADLPKLHTLHLQMFINQAQLSIFGTFRALRF 419
CAT 360 FGSLLSLQQLDMHGIFFRSLSETTLRSLVHLPMQLSHLQMFINQAQLSIFGAFFPGLRY 419
      * . * . * . * . * ***** . . * . * * . * . * ***** . * . * . * . .
SWINE 419 VDLSDNRISGAARPVAITREVDGR-ERVWLPSRNLAPRPLDTLRSEDFMPNCKAFSFTLD 477
HUMAN 420 VDLSDNRISGASELTATMGEADGG-EKVLWQPGDLAPAPVDTPSSEDFRPN CSTLNFTLD 478
MOUSE 420 VDLSDNRISGPSTLSEATPEEADDAEQEELLSADPHAPLSTPASKNFMORCKNFKFTMD 479
CAT 420 VDLSDNRISGAMELAAATGEVDGG-ERVRLPSGDLALGPPGTPSSEGFMPGCKTLNFTLD 478
      ***** . . . . * . . * . * . . . . * * . * . * . * . * . * . *
SWINE 478 LSRNNLVTIQSEMFARLSRLECLRLSHNSISQAVNGSQFVPLTSLRVLDLSHNKLDLYHG 537
HUMAN 479 LSRNNLVTIQPEMFAQLSHLQCLRLSHNCISQAVNGSQFLPLTGLQVLDLSRNKLDLYHE 538
MOUSE 480 LSRNNLVTIKPEMFVNLSRLQCLSLSHNSIAQAVNGSQFLPLTNLQVLDLSHNKLDLYHW 539
CAT 479 LSRNNLVTIQPEMFARLSRLQCLLSRNSISQAVNGSQFMPLTSLQVLDLSHNKLDLYHG 538
      ***** . . . * * * . * . * . * * * . * . * . * . * . * . * . * . *

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FIG. 8

SWINE	538	RSFTELPRLAEDLSYNSQPFIMQGVGHNLSEVAQLPALRYLSLAHNDIHSRVSQQLCSA	597
HUMAN	539	HSFTELPRLAEDLSYNSQPFIMQGVGHNFSEVAHLRTLRLHLSLAHNNIHSQVSOQLCST	598
MOUSE	540	KSFSELPQLQALDLGYNQPFISIKGIGHNFSEVAHLSMLHSLSLAHNDIHTRVSSHLSNSN	599
CAT	539	RSFTELPRLAEDLSYNSQPFIMQGVGHNLSEVAQLPALRYLSLAHNDIHSRVSQQLCSA	598
** .*** .* .***** .***** ..* .*** ***** * * .***** .** ..** .* .*			
SWINE	598	SLCALDFSGNDLSRMWAEGLDYLRFQGLRSLVWLDLSQNLHTLLPRALDNLPKSLKHL	657
HUMAN	599	SLRALDFSGNALGHMWAEGDLYLHFFQGLSGLIWLDLSQNLHTLLPQTLRNLPKSLQVL	658
MOUSE	600	SVRFELDFSGNMGMRWDEGGLYLHFFQGLSGLLKLDLSQNLHLLRPQNLNLPKSLKLL	659
CAT	599	SLRALDFSGNALSRMWAEGDLYLKFFRGLRSLVRDLDSQNLHTLLPRTLNLPKSLRL	658
*...***** . .**.*.*** **.* * ***** **.* * .***** *			
SWINE	658	HLRDNNLAFFNWSSLTLLPKLETLDLAGNQLKALSNGSLPSGTQLRRDLSGNSIGFVNP	717
HUMAN	659	RLRDNYLAFFKWSLHFLPKLEVLDLAGNRLKALINGSLPAGTLRRDLVSCNSISFVAP	718
MOUSE	660	SLRDNYLSFFNWTSLSFLPNLEVLDLAGNQLKALINGTLPNGTLQKLDVSSNSIVSVVP	719
CAT	659	RLRDNYLAFFNWSSLVLLPRLEALDLAGNQLKALSNGSLPNGTQLQRLDSSNSISFVAS	718
**** .* .** .* ** ** ** ***** .**** ** .** ** * .** * *** .* .			
SWINE	718	GFFALAKQLEELNLSANALKTVEPSWFGSMVGNLKVLDVSNPLHCACGATFVGFLLLEVQ	777
HUMAN	719	GFFSKAKELREINLSANALKTVDHSWFGPLASALQILDVSNPLHCACGAAFMDFLLLEVQ	778
MOUSE	720	AFFALAVELKEVNLSHNILKTVDRSWFGPIVMNLTVLDVRSNPLHCACGAAFVDLLLEVQ	779
CAT	719	SFFALATRLREINLSANALKTVEPSWFGSLAGTLKVLDVTGNPLHCACGAAFVDFLLLEVQ	778
** .* * * .*** .* .**** ***** * .*** ***** .*...*****			
SWINE	778	AAVPGLPSRVKCGSPGQLQGHISIFAQDLRLCLDETLSWNCFGISLLAMALGLVVPMLHHL	837
HUMAN	779	AAVPGLPSRVKCGSPGQLQGLSIFAQDLRLCLDEALSWDCFALSLLAVALGLVPMPLHHL	838
MOUSE	780	TKVPGLANGVKCGSPGQLQGRSIFAQDLRLCLDEVLSWDCFGLSLLAVAVGMVPIHHL	839
CAT	779	AAVPGLPGHVKCGSPGQLQGRSIFAQDLRLCLDEALSWDCFGLSLLTVALGLAVPMPLHHL	838
..**** . ***** ***** ***** *** .** ..*** ..* .* .** .****			

FIG. 9

SWINE	838	CGWDLWYCFHLCLAWLPHRGQRRGAD--ALFYDAFVFDKAQSAVADWVYNELRVQLEER	895
HUMAN	839	CGWDLWYCFHLCLAWLPWRGRQSGRDEDALPYDAFVFDKTQSAVADWVYNELRGQLEEC	898
MOUSE	840	CGWDVWYCFHLCLAWLPLIARSRRSAQA-LPYDAFVFDKAQSAVADWVYNELRVRLGR	898
CAT	839	CGWDLWYCFHLCLAWLPRGRRRRGAD--ALPYDAFVFDKAQSAVADWVYNELRVRLGR	896
****.*****.*.*****.*****. **. .			
SWINE	896	RGRRALRLCLEERDWLPGKTLFENLWASVYSSRKTLFVLAHTDRVSGLLRASFLLAQORL	955
HUMAN	899	RGRWALRLCLEERDWLPGKTLFENLWASVYGSRKTLFVLAHTDRVSGLLRASFLLAQORL	958
MOUSE	899	RGRRALRLCLEERDWLPGKTLFENLWASTYGSRKTLFVLAHTDRVSGLLRTSFLLAQORL	958
CAT	897	RGRRALRLCLEERDWLPGKTLFENLWASVYSSRKMLFVLAHTDRVSGLLRASFLLAQORL	956
.**.*****.*****.****.*****.*****.*****			
SWINE	956	LEDKDVVVLVILRPDAYRSRYVRLRQRLCRQSVLLWPHQPGQGSFWAQLGTALTRDNR	1015
HUMAN	959	LEDKDVVVLVILSPDGRRSRYVRLRQRLCRQSVLLWPHQPSGQGSFWAQLGMALTRDNH	1018
MOUSE	959	LEDKDVVVLVILRPDAHRSRYVRLRQRLCRQSVLFWPQPGQGSFWAQLSTALTRDNR	1018
CAT	957	LEDKDVVVLVILRPDAHRSRYVRLRQRLCRQSVLLWPHQPSGQGSFWAQLGTALTRDNQ	1016
*****.***.*****.*****.***.***.*****.*****			
SWINE	1016	HFYNRNFCRGPTTAE	1030
HUMAN	1019	HFYNRNFCQGP-TAE	1032
MOUSE	1019	HFYNQNFRCGP-TAE	1032
CAT	1017	HFYNQNFRCGPTTAE	1031
*****.***.***.***			

FIG. 10

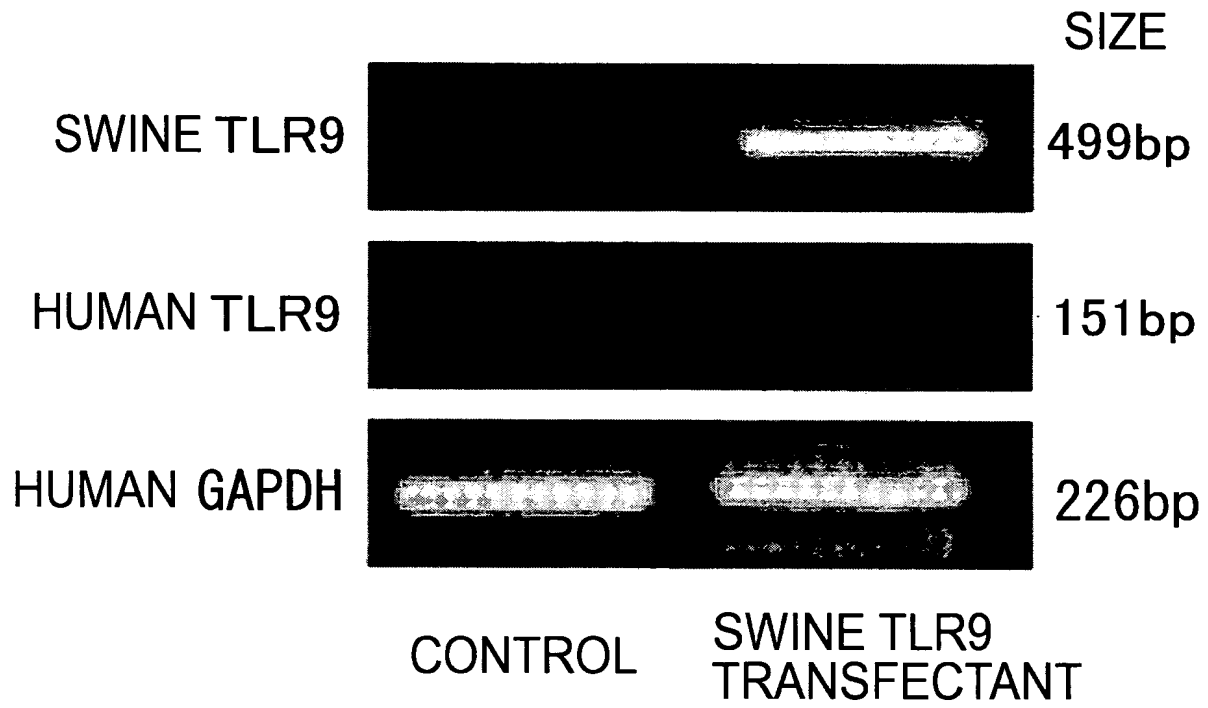


FIG. 11

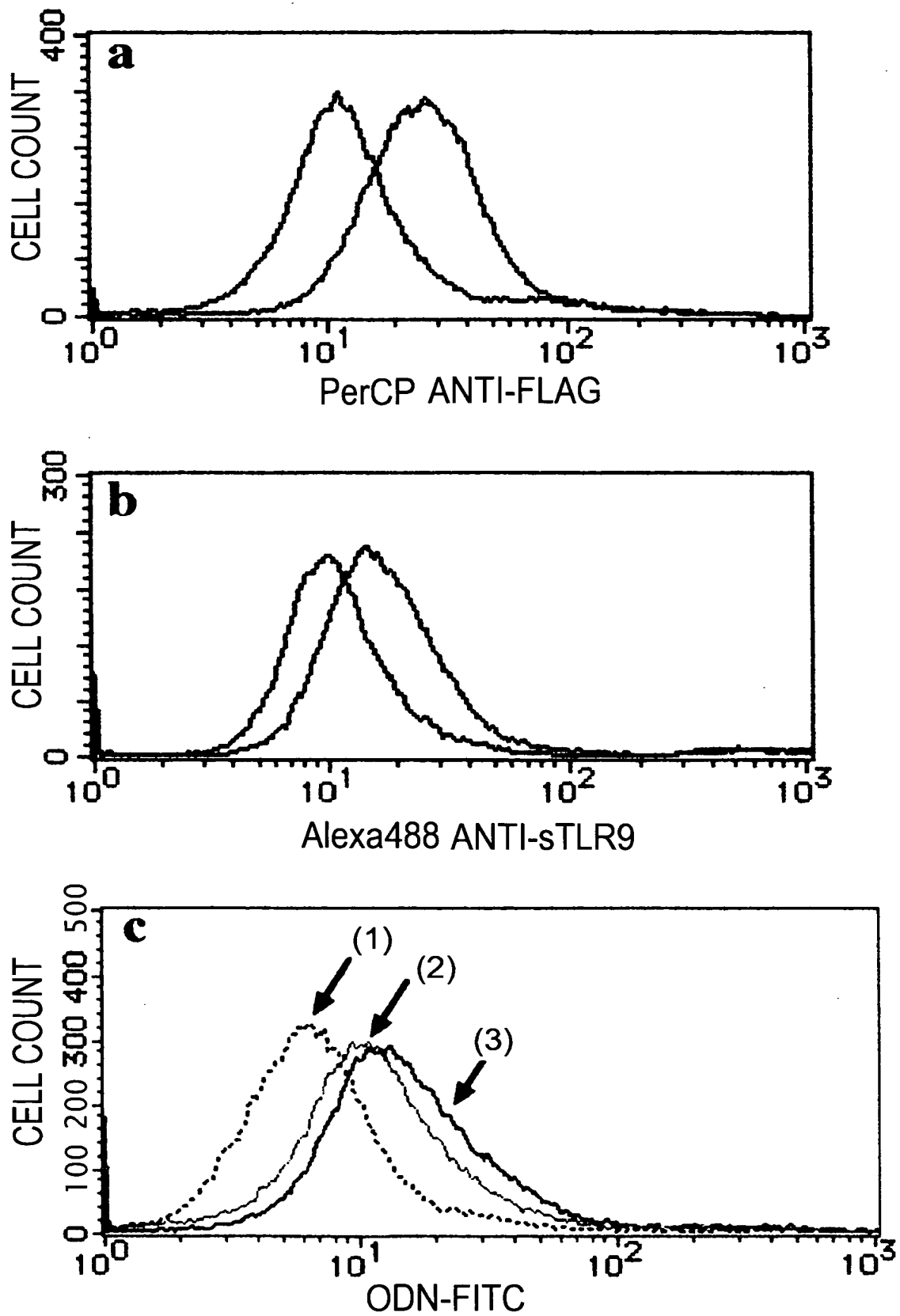


FIG. 12

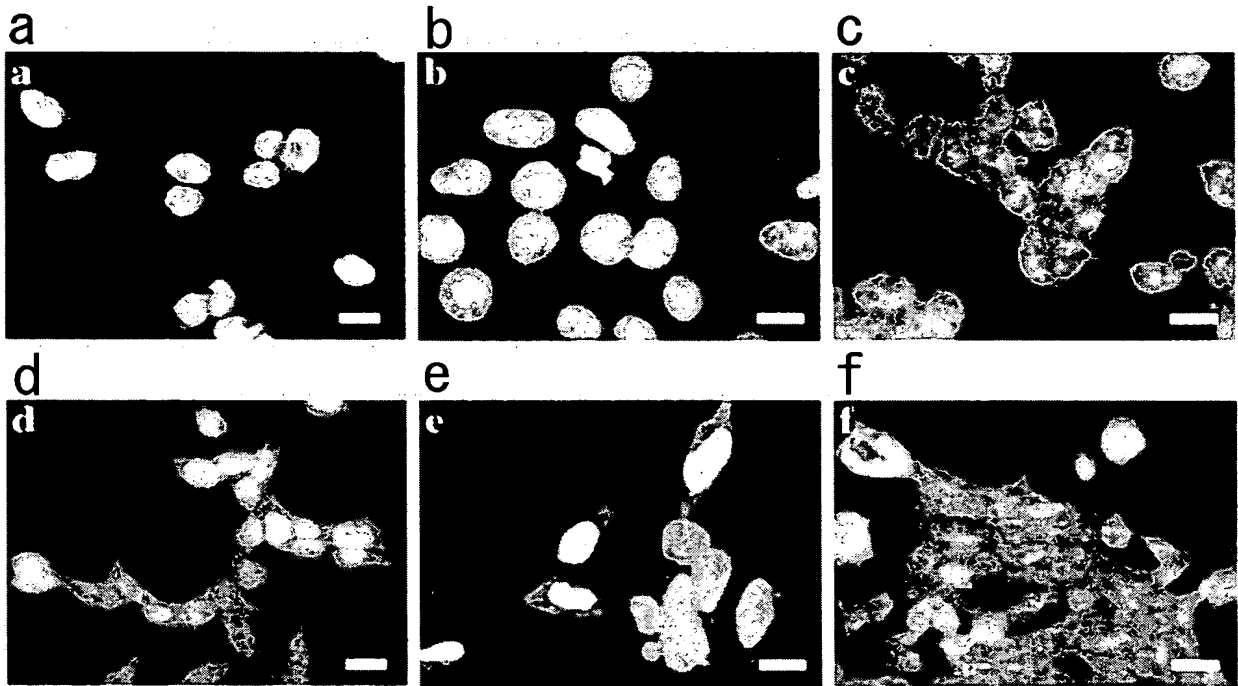


FIG. 13

